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A great year for potato leafhopper

Stephen Alan Lefko

Iowa State University, slefko@iastate.edu

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A great year for potato leafhopper

Abstract

Frequent rains may have delayed alfalfa harvest but they haven't slowed the buildup of potato leafhopper populations. Potato leafhopper is a small, bright green insect that can be seen hopping out of your way as you walk in an alfalfa field. This sap-sucking insect can cut alfalfa yields in half and even kill seedlings when populations are high and left unmanaged. The primary cause of yield loss is shorter or stunted stems; however, leaf yellowing or hopperburn is the telltale symptom of this pest.

Keywords

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Disciplines

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INTEGRATED CROP MANAGEMENT

A great year for potato leafhopper

Frequent rains may have delayed alfalfa harvest but they haven't slowed the buildup of potato leafhopper populations. Potato leafhopper is a small, bright green insect that can be seen hopping out of your way as you walk in an alfalfa field. This sap-sucking insect can cut alfalfa yields in half and even kill seedlings when populations are high and left unmanaged. The primary cause of yield loss is shorter or stunted stems; however, leaf yellowing or hopperburn is the telltale symptom of this pest.



Adult and nymphal potato leafhopper.

[1]



Severe hopperburn and plant stunting.

[2]



Susceptible alfalfa (left) shows severe leafhopper symptoms and delayed development compared with leafhopper-resistant alfalfa (right).

[3]

Most of Iowa's first cutting probably escaped yield loss due to leafhoppers even though leaf symptoms began to show as the crop reached maturity. Most leafhopper eggs and young (nymphs) are killed during the harvest process. Unfortunately, the delayed harvest of the first cutting provided more time for leafhopper nymphs to reach the adult stage and this probably will contribute to problems in the regrowth. Leafhoppers prefer to feed and lay eggs in young, succulent alfalfa. Therefore, regrowth in first-cut fields will be a prime target for this pest and these fields should be scouted regularly to avoid losses. However, don't assume that fields cut later are without risk. Leafhoppers will eventually reappear in most alfalfa fields after harvest. Scouting should continue in the third cutting even though potato leafhoppers are less likely to cause extensive losses in this cutting.

Scouting for potato leafhopper is quick and easy and essential in helping make correct control decisions. Information on the size of the leafhopper population and the height of the alfalfa is required to make a correct management decision. Take 10 consecutive sweeps (as you walk) from the alfalfa canopy with a fine-mesh net. Count the total number of adult leafhoppers in the net. Repeat the 10 sweeps in five different places in the field and average

the five insect counts. Next estimate in inches the height of the alfalfa. For alfalfa that is less than 10 inches in height, you should consider spraying an insecticide if the average number of insects in 10 sweeps is greater than the height of the alfalfa in inches. When the alfalfa is taller than 10 inches, you should consider spraying if you average 20 or more leafhoppers in 10 sweeps.

Potato-leafhopper-resistant alfalfa

In 1997 several seed companies released leafhopper-resistant alfalfa seed. These varieties outperform susceptible alfalfa when leafhopper populations are high, and this advantage increases over the first few cuttings. Resistant alfalfa, however, is not immune to damage by potato leafhoppers. In fact, the presence of leafhoppers in resistant alfalfa is common and does not mean that the resistance has failed. Resistant alfalfa may still show hopperburn and suffer yield loss when leafhopper populations are high. The advantage is that resistant alfalfa can tolerate larger leafhopper populations than susceptible varieties before control becomes necessary. Therefore, scouting resistant alfalfa is still recommended and requires a slightly different set of decision guidelines.

For leafhopper-resistant varieties, use the same guidelines as for susceptible alfalfa (described above) during the first cutting of the seeding year. The resistance is low in seedlings and will increase with the first few cuttings. After the first cutting, use the same guidelines as described above except multiply the alfalfa height by 5. For example, consider spraying if the alfalfa is 8 inches tall and you collect 40 or more leafhoppers ($5 \times 8 \text{ inches} = 40$) in 10 sweeps. If the alfalfa is taller than 10 inches consider spraying if you collect 50 or more leafhoppers in 10 sweeps.

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